## Patent Claims

1. Electronic throttle control system device for motorcycles that is mounted on a handlebar element (12), and that includes at least

- a twist-throttle control element (16) that may be adjusted at the handlebar element (12) by rotation along an actuation direction from an idle position to full-throttle position,

- a rotation-position sensor (104) that is mounted outside the rotation axis of the twist-throttle control element (16),

- whereby the rotation-position sensor (104) consists of a rotor unit (106) and a stator unit (108), whereby the rotor unit (106) with the twist-throttle control element (16) may be moved with respect to the stator unit (108), and whereby the rotation axis of the rotor unit (106) and the twist-throttle control element (16) are positioned parallel to each other at a distance,

- and whereby the rotor unit (106) may be adjusted by means of an engagement element (92) connected with the twist-throttle control element (16) that includes a

first number of teeth (94) that engage with a second number of teeth (98) on a toothed element (96),

- whereby the toothed element (96) is coupled with the rotor unit (106), or the rotor unit (106) is at least partially formed as a toothed element,

- and at least one return element (100, 114) is provided that acts against the actuation direction so that the engagement between the first and the second teeth is essentially without free play.

2. Device as in Claim 1, in which

- the return element (100, 114) is the only return element in the system.

3. Device as in Claim 1, in which

- the return element (100, 114) is so pre-tensioned that a spring force acts on the rotor unit even in the idle position.

4. Device as in Claim 1, in which

- the return element is a spiral spring (100) that extends around the rotation axis of the rotor unit (106).

5. Device as in Claim 1, in which

- the return element (114) acts via a pull cable (112) on the rotor unit (106).

6. Device as in Claim 1, in which

- the engagement element (92) is mounted within the rotation axis of the twist-throttle control element (16), and rotates with it,

- whereby an axial bearing is provided for the engagement element (92).

7. Electronic throttle control system for motorcycles that is mounted on a handlebar element (12), and that includes at least

- a twist-throttle control element (16) that may be adjusted at the handlebar element (12),

- a rotation-position sensor (42, 72) that consists of a rotor unit and a stator unit (46, 47; 44, 76) (108), whereby the rotor unit (46, 74) may be moved rotationally by means of the twist-throttle control element (16) with respect to the stator unit (44, 76),

- whereby the rotation-position sensor (42, 72) is mounted axially adjacent to the twist-throttle control element (16), and the rotation axis of the rotor unit (46, 74) essentially coincides with the rotation axis of the twist-throttle control element (16),

- whereby an intermediary coupling unit (50) is provided axially between the twist-throttle control element (16) and the rotor unit (46, 74) that is firmly connected with both the twist-throttle control element (16) and the rotor unit (46, 74) so that it may not rotate, but that does not transmit any occurring oblique forces.

8. Device as in Claim 7 in which

- the intermediary coupling unit (50) is essentially disk-shaped with axial engagement projections (52a, 52b),

- whereby at least two engagement projections (52a, 52b) engage into recesses (54, 56) of the rotor unit (46, 74) and of the twist-throttle control element (16) or of an element connected with the twist-throttle control element (16) so that they may be axially displaced.

9. Device as in Claim 1 in which

- a return element (121) is formed by at least one spring-loaded pull cable (122, 124) that is attached to an essentially ring-shaped cable guide ring element (120),

- whereby the cable-guide ring element (120) is coupled with the rotor unit or with the twist-throttle control element so that it may not rotate,

- whereby the cable-guide ring element (120) includes a cable guide slot (126) formed with at least a partial wedge-shaped cross-section into which the pull cable (122, 124) is fed.

10. Device as in Claim 7 in which

- a return element (121) is formed by at least one spring-loaded pull cable (122, 124) that is attached to an essentially ring-shaped cable guide ring element (120),

- whereby the cable guide ring element (120) is coupled with the rotor unit or with the twist-throttle control element so that it may not rotate,

- whereby the cable-guide ring element (120) includes a cable guide slot (126) formed with at least a partial wedge-shaped cross-section into which the pull cable (122, 124) is fed.

11. Device as in Claim 1 in which

- the rotation-position sensor is formed as a Hall-effect rotation sensor element (46, 104),

- whereby a magnet element (66) is mounted on the rotor unit (46, 106),

- and the stator unit (44, 108) consists of two opposing partial stator elements (58a, 58b) that have at least one separation recess (60a, 60b), whereby at least one Hall-effect element (62a, 62b) is mounted in at least one separation recess (60a, 60b).

12. Device as in Claim 7 in which

- the rotation-position sensor is formed as a Hall-effect rotation sensor element (46, 104),

- whereby a magnet element (66) is mounted on the rotor unit (46, 106),

- and the stator unit (44, 108) consists of two opposing partial stator elements (58a, 58b) that have at least one separation recess (60a, 60b), whereby at least one Hall-effect element (62a, 62b) is mounted in at least one separation recess (60a, 60b).

13. Device as in Claim 11 in which

- a stator ring element (58a) 100° to 140° long

- and a second stator ring element (58b) 220° to 260° long are provided.

14. Device as in Claim 12 in which

- a stator ring element (58a) 100° to 140° long

- and a second stator ring element (58b) 220° to 260° long are provided.

15. Device as in Claim 11 in which

- the rotor unit (46, 106) surrounds a partial-ring-shaped magnet segment element (66) with a length of 100° to 150° that is mounted on a magnet mount element (68).

16. Device as in Claim 12 in which

- the rotor unit (46, 106) surrounds a partial-ring-shaped magnet segment element (66) with a length of 100° to 150° that is mounted on a magnet mount element (68).

17. Device as in Claim 1 in which

- the rotation-position sensor is formed as an inductive rotation sensor (72),

- whereby an induction circuit (80) with at least two inductors (82, 84, 86) are mounted on the stator unit (76),

- and an inductive coupling element (78) is provided on the rotor unit (74) for position-dependent inductive coupling of the two inductors (82, 84, 86) is provided.

18. Device as in Claim 7 in which

- the rotation-position sensor is formed as an inductive rotation sensor (72),

- whereby an induction circuit (80) with at least two inductors (82, 84, 86) are mounted on the stator unit (76),

- and an inductive coupling element (78) is provided on the rotor unit (74) for position-dependent inductive coupling of the two inductors (82, 84, 86) is provided.

19. Device as in Claim 17 in which

- the induction circuit (80) is partial-ring-shaped and has a length of 100 to 140°.

20. Device as in Claim 18 in which

- the induction circuit (80) is partial-ring-shaped and has a length of 100 to 140°.

21. Device as in Claim 17 in which

- the inductive element (78) is configured as a resonance circuit with at least one inductor and one capacitor.

22. Device as in Claim 18 in which

- the inductive element (78) is configured as a resonance circuit with at least one inductor and one capacitor.

23. Electronic throttle control system for motorcycles that is mounted on a handlebar element (12), and that includes at least

- a twist-throttle control element (16) that may be adjusted at the handlebar element (12),

- a rotation-position sensor (42, 104) that consists of a rotor unit and a stator unit (46, 47; 44, 76), whereby the rotor unit (46, 106) may be moved rotationally by means of the twist-throttle control element (16) with respect to the stator unit (44, 108), and

- at least one spring element (100, 114, 128, 130) by means of which at least the twist-throttle control element (16) may be returned,

- whereby the rotation-position sensor (42, 104) is mounted adjacent to the twist-throttle control element (16), and the rotor unit (46, 106) is adjusted by means of a drive setting element (48, 94) connected with the twist-throttle control element component element (16),

- and whereby the stator unit (44, 108) consists of two opposing partial stator elements (58a, 58b) that have

at least one separation recess (60a, 60b), whereby at least one Hall-effect element (62a, 62b) is mounted in at least one separation recess (60a, 60b),

- whereby a first stator ring element (58a) has a length of 100 to 140°,

- and a second stator ring element (58b) 220° to 260° long is provided.

24. Device as in Claim 23 in which

- the rotor unit (46, 106) surrounds a partial-ring-shaped magnet segment element (66) with a length of 100° to 150° that is mounted on a magnet mount element (68).

25. Electronic throttle control system for motorcycles that is mounted on a handlebar element (12), and that includes at least

- a twist-throttle control element (16) that may be adjusted at the handlebar element (12),

- a rotation-position sensor (72) that consists of a rotor unit and a stator unit (74, 76), whereby the rotor unit (74) may be moved rotationally by means of

the twist-throttle control element (16) with respect to the stator unit (76),

- at least one spring element (100, 114, 128, 130) by means of which at lest the twist-throttle control element (16) may be returned,

- whereby the rotor unit (74) is adjusted by means of a drive setting element (94) connected with the twist-throttle control element (16),

- whereby the rotation-position sensor is formed as an inductive rotation sensor (72) in which

- an inductive coupling element (78) is provided on the rotor unit (74), and an induction circuit (80) with at least one exciter inductor (82, 84) and one receptor inductor (86) mounted on the stator unit (76),

- and whereby the inductive coupling element (78) causes a position-dependent coupling between the exciter inductors (82, 84) and the receptor inductance (86),

- whereby the induction circuit (80) is partial-ring-shaped and extends over an angle range of 100°-140°.

26. Device as in Claim 25 in which

- the inductive coupling element (78) is configured as a resonance circuit (78) with at least one capacitor (c) and one inductor (L).